

MERCER

Investment Consulting

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Total Fund Review – Third Quarter Board Meeting Arizona State Retirement System

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Economic Environment

Economy Growth: Moderate and Steady

- Hurricanes Katrina and Rita made it difficult to interpret the data for the third quarter, but the Fed's preliminary report showed that growth was fairly robust. The initial government estimate of third- quarter GDP growth was 3.8%.
 - Job growth was solid in July and August, but turned negative in September following Katrina. The unemployment rate rose to 5.1%, up slightly since last quarter.
 - Consumer confidence plummeted in September amid concerns over rising energy prices. Retail sales remained strong as the negative impact of Katrina was offset by higher gas prices and recovery-related spending.
- Overall, the housing market remained strong. Although new home sales and building permits fell in August, housing starts jumped in September and sales of existing homes and home prices continued to rise.

Economy Growth: Moderate and Steady

- For the quarter, industrial production was down 1.2% (and down 1.3% for September), retail sales were flat, and housing starts were up 2.1%.
- Tax receipts at the federal, state, and municipal levels remain stronger than expected, indicating a healthy economy. The federal budget deficit declined for the first time in years.
- Currently, economic growth appears average, right around the 3.4% average growth rate since 1959.
- Non-consumer sectors such as IT and capital goods are very strong
- Overall, the economy is performing better than many people believe

Inflation Returns!

Just in Time for a New Fed Chairman

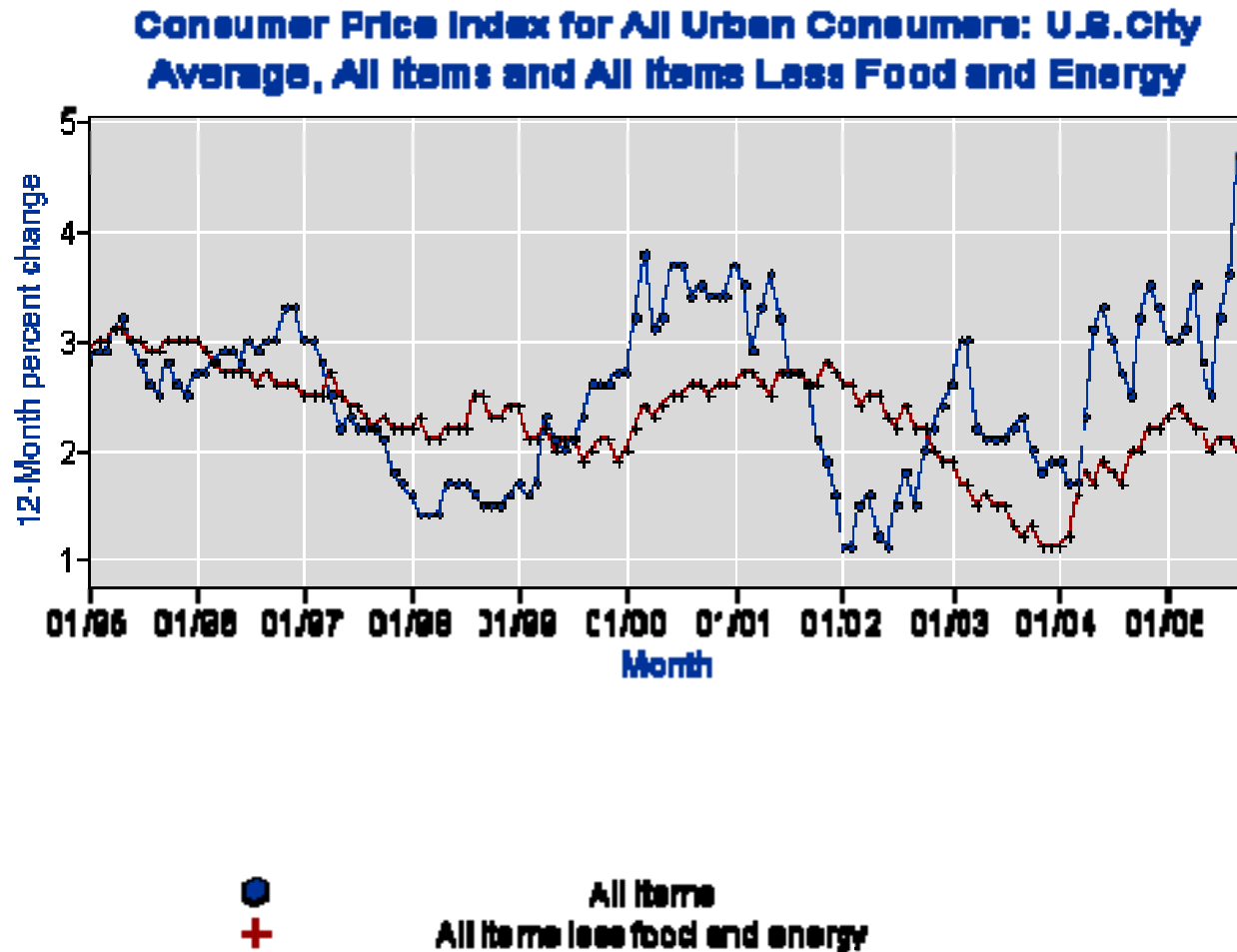
- Inflation was at one of its highest levels in over a decade. Over the trailing year through September, the CPI was up 4.7%.

| | <u>2004</u> | | | | <u>2005</u> | | |
|----------------|-------------|-----------|-----------|-----------|-------------|-----------|-----------|
| | <u>1Q</u> | <u>2Q</u> | <u>3Q</u> | <u>4Q</u> | <u>1Q</u> | <u>2Q</u> | <u>3Q</u> |
| Quarter Change | 1.7% | 1.2% | 0.1% | 0.2% | 1.6% | 0.6% | 2.2% |
| Y-o-Y Change | 1.7% | 3.3% | 2.5% | 3.3% | 3.1% | 2.5% | 4.7% |

- Energy prices were the main culprit, as the energy component of the CPI was up 21.4% in the third quarter and up 34.8% over the trailing year.

Inflation Returns!

Just in Time for a New Fed Chairman



Inflation Returns!

Just in Time for a New Fed Chairman

- But the inflation is not broad-based, which is why Fed officials are concerned but not alarmed. Core CPI, which excludes food and energy prices, is up 2.0% over the trailing year, right in line with its targets. The Producer Price Index was up 3.2% for the quarter and is up 6.9% over the trailing year.
- Breakeven inflation increased during the quarter. In June, the breakeven inflation as measured by the difference between 10-year nominal and real yields was at 2.3%, but rose to 2.6% by the end of September. It has slipped back down to 2.5% since the beginning of the month.
- Going forward, we continue to affirm 2.5% as our estimate of inflation for the next year as well as the long run.

Meet the New Fed Chairman

No Radical Changes Expected

- As expected, Ben Bernanke was nominated to replace Alan Greenspan as the new chairman of the Federal Reserve, and he should be easily confirmed by the Senate.
- Bernanke's overall approach will be very similar to Alan Greenspan's.
 - Currently, he advocates no change in the “measured” pace of increasing interest rates and doesn't believe that inflation is out of control.
 - Like Greenspan, Bernanke will be polite and politically adept with Congress and the Administration, but will deftly criticize them for their spending, regulatory, and protectionist inclinations.

Meet the New Fed Chairman

There are Some Differences, However

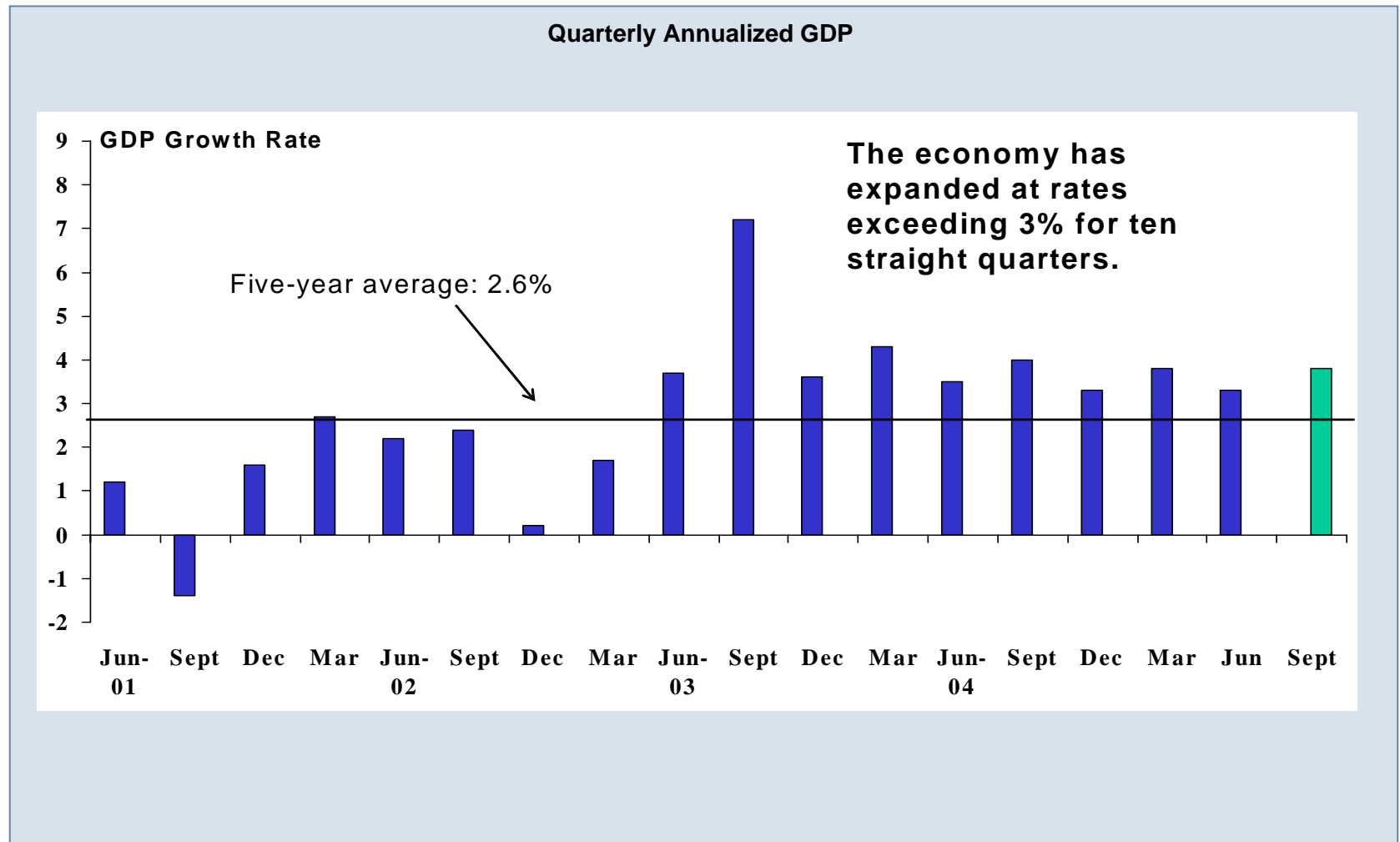
- There are differences between Bernanke and Greenspan.
 - Bernanke believes in clearly articulating an inflation target.
 - He may be more “model” driven.
 - Greenspan is very willing to adapt his economic thinking to the circumstances. (For example, he postulated on the deflationary effects of productivity during the 1990s.)
 - The inscrutable Greenspan was brilliant at never getting pinned down on what the Fed’s target inflation or full-employment objectives were.
- In the long run, Bernanke does face some considerable challenges. The recovery is getting “mature,” real estate may be at a bubble phase, consumers are levered and savings is quite low, and the trade deficit is high.

Meet the New Fed Chairman

The Fed's View of the State of the Economy

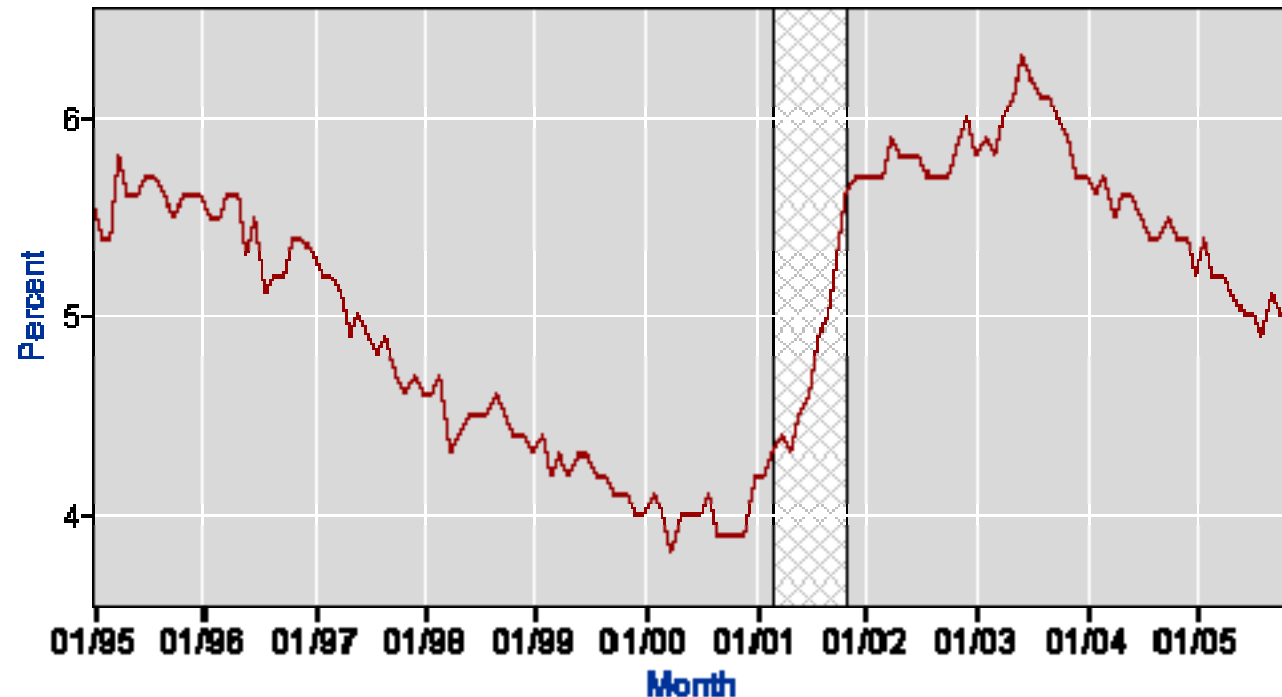
- Even amid the concerns about the impact of the hurricanes, Fed officials believe that the economy is reasonably healthy at the moment. Energy prices, and to some extent low interest rates of the last few years, have had an inflationary effect, but this is a short-term phenomenon and should dissipate over the next year.
- Fed Fund futures contracts imply that the Fed will raise interest rates to 4.25% by the end of the year and to 4.5% in the spring. (In contrast, our Fearless Forecast participants at the beginning of the year projected the Fed Fund rate to rise to 3.2% by the end of the year.)
- Fed policy is finally moving into the restrictive range. Core inflation is around 2.0% to 2.5%, so we are beginning to see sizable short real interest rates.

Steady Growth: GDP Shows 10 Consecutive Quarters At or Above 5-Year Average



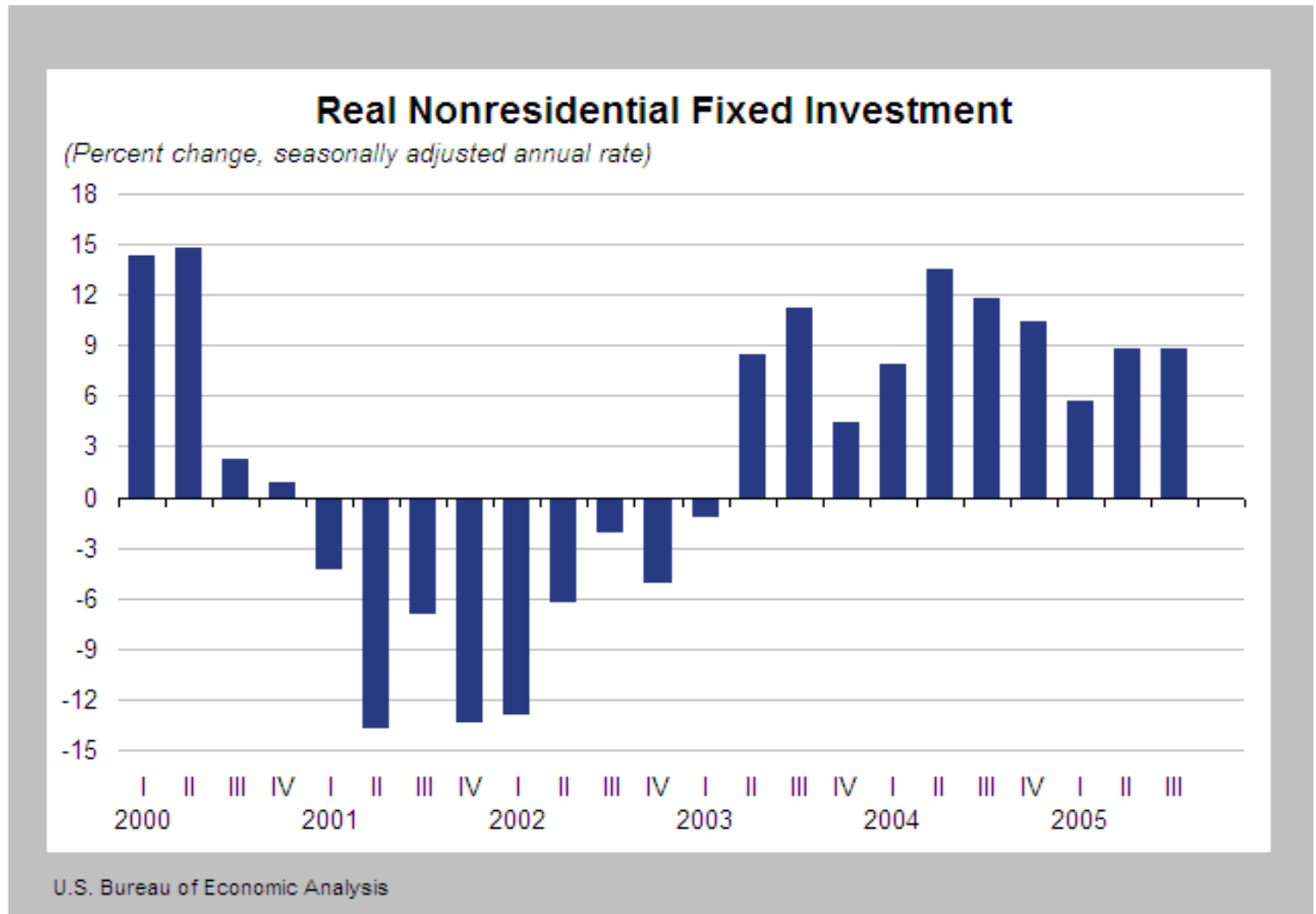
Unemployment Continued Its Downward Trend

Unemployment rate (seasonally adjusted)

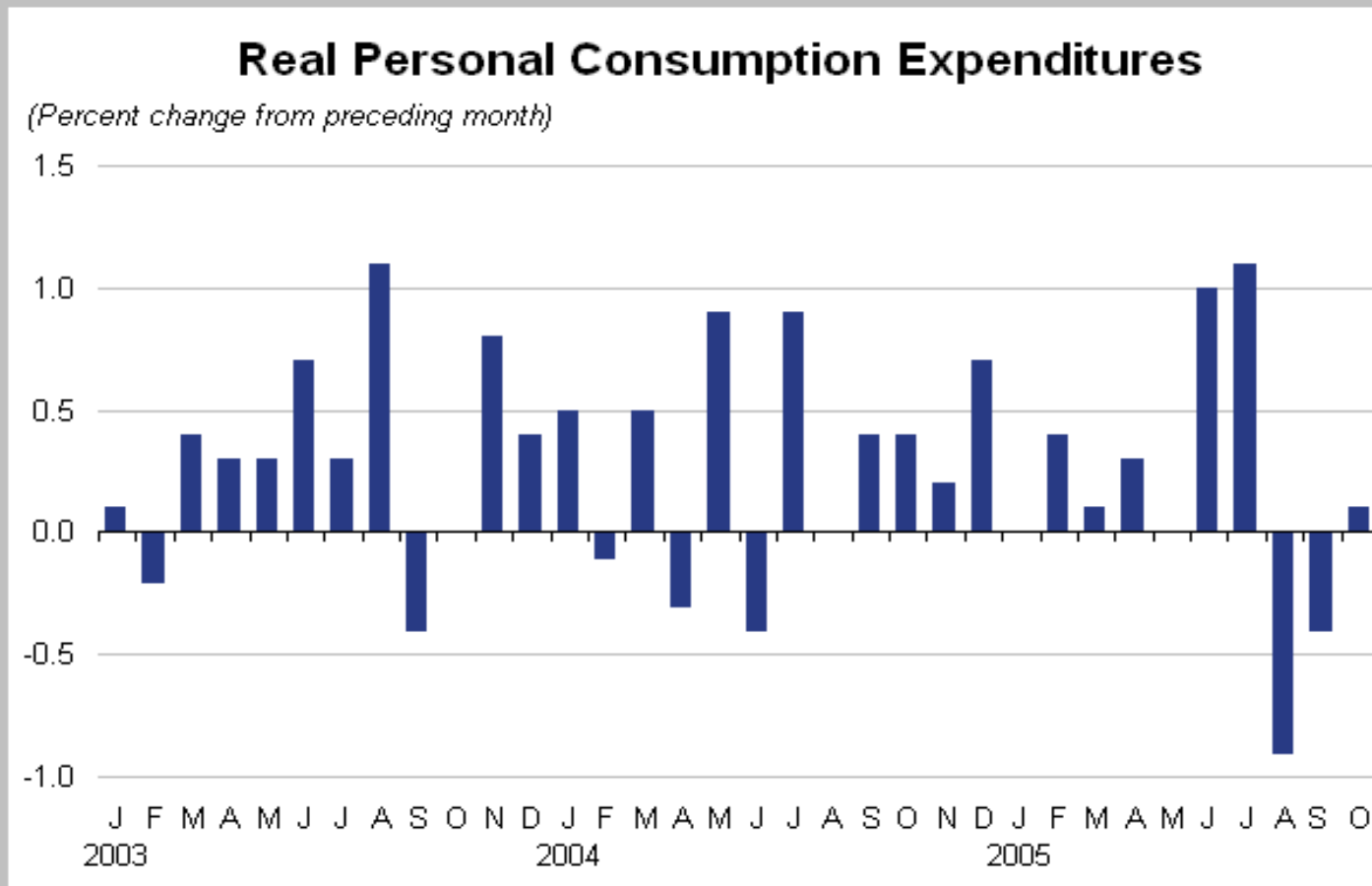


Note: Cross-hatched area represents recession.

Corporate Capital Spending Continues Strong



Consumer Spending Down Significantly Energy Prices and Housing Prices Are Factors



U.S. Bureau of Economic Analysis

Outside the US: Global Growth

- After several jolts (rejection of the EU constitution, terrorism in London, and a gridlock election in Germany), Europe has probably hit its lows and should start to rebound. The capital markets certainly think so, as equity returns in Europe during the third quarter were quite strong.
- In July, China dropped its dollar peg. Although the initial impact is minuscule, this event offers great flexibility to China in the long run. By adopting a currency basket and gradual adjustment, China appears to have the best of both worlds: it drops the peg, and prohibits any crisis while its financial system matures and adapts to the requirements of flexible exchange rates.
- Many analysts are also positive about Japan.
- After ten months of steady appreciation against almost every currency, the dollar is expected to start to decline again.



Securities Markets

U.S. Equity Markets

Stocks Driven by Energy, Utilities, and Technology

- The stock market held up well during the third quarter despite higher energy prices, rising short-term interest rates, airline bankruptcies, and devastating hurricanes. The S&P 500 Index gained 3.6%, while the Russell 1000 Index advanced 3.9%.
- Strong performance in July helped push small cap stocks ahead of large caps during the quarter as the Russell 2000 Index gained 4.7%. Small cap growth stocks, up 6.3%, led small cap value stocks, which gained 3.1%.
- Large cap growth stocks held a small edge over their value counterparts as the Russell 1000 Growth Index gained 4.0%, while the Russell 1000 Value Index advanced 3.9%.

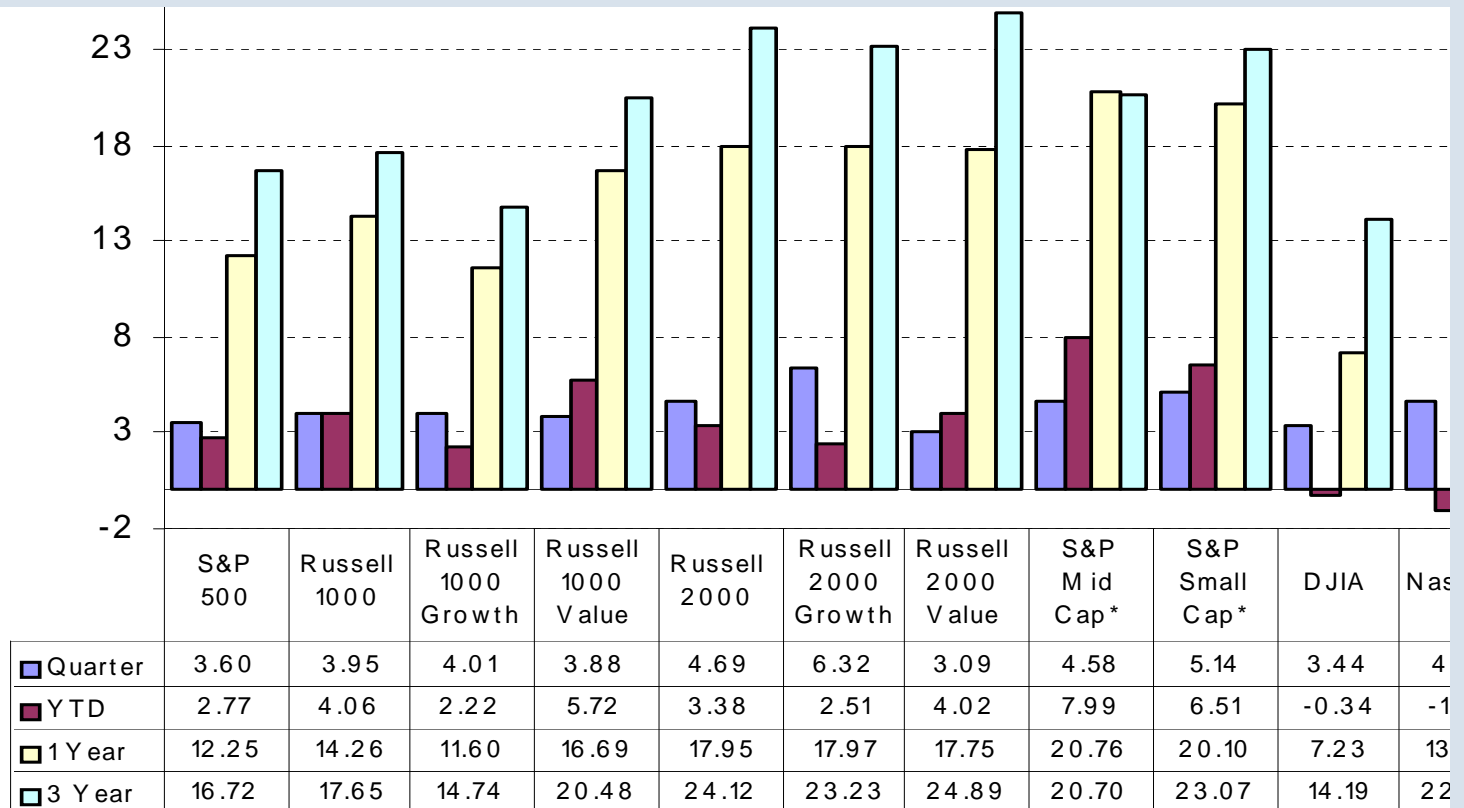
U.S. Equity Markets

Stocks Driven by Energy, Utilities, and Technology

- Natural-resource stocks were the top performers as the energy and integrated oils sectors gained 31.2% and 14.0% respectively. Consumer discretionary & services, down 0.7%, was the weakest-performing sector, followed by financial services, which eked out a 1.1% gain.

U.S. Equity Markets Index Performance

Domestic Equity Returns



Source: Datastream; *Price Return Only

Quarterly Returns Are Single-Digit Positive

- Growth is outperforming value across the cap ranges.
- Mid cap growth was the best place to invest.

| 3Q05 | Value | Core | Growth |
|--|-------|------|--------|
| Large | 3.88 | 3.94 | 4.01 |
| Mid | 5.35 | 5.92 | 6.55 |
| Small | 3.09 | 4.69 | 6.31 |
| | | | |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

One-Year Returns Differ Significantly by Style

- Very strong results for mid-cap across the style spectrum.
- Value was generally the place to be, but that is changing.

| 1-Year Returns | Value | Core | Growth |
|--|--------------|--------------|--------------|
| Large | 16.67 | 14.24 | 11.58 |
| Mid | 26.09 | 25.09 | 23.48 |
| Small | 17.72 | 17.92 | 17.94 |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

Three-Year Results Show Narrowing Variations

- Returns, except for large core and growth, are well above long-term expectations.
- Even large growth has improved dramatically.

| 3-Year Returns | Value | Core | Growth |
|--|--------------|--------------|--------------|
| Large | 20.47 | 17.66 | 14.75 |
| Mid | 26.65 | 25.99 | 24.93 |
| Small | 24.91 | 24.13 | 23.22 |
| | | | |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

Cumulative 3-Year Results Are Strong

- Returns for all are excellent; we had an excellent recovery.
- Mid-cap is up more than 90% across the style spectrum.

| Cumulative 3-Yr | Value | Core | Growth |
|--|---------------|--------------|--------------|
| Large | 74.84 | 62.89 | 51.10 |
| Mid | 103.15 | 99.99 | 94.98 |
| Small | 94.89 | 91.26 | 87.09 |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

Five-Year Results Still Show Wide Variations

- Returns are negative for growth.
 - Large cap growth is still quite negative.
- Value, particularly small value, is superior to other styles.

| 5-Year Returns | Value | Core | Growth |
|--|--------------|--------------|--------------|
| Large | 5.75 | -1.26 | -8.62 |
| Mid | 13.96 | 7.18 | -4.49 |
| Small | 15.20 | 6.47 | -2.52 |
| | | | |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

Cumulative 5-Year Results Are Extremely Different, Depending on Market Segment

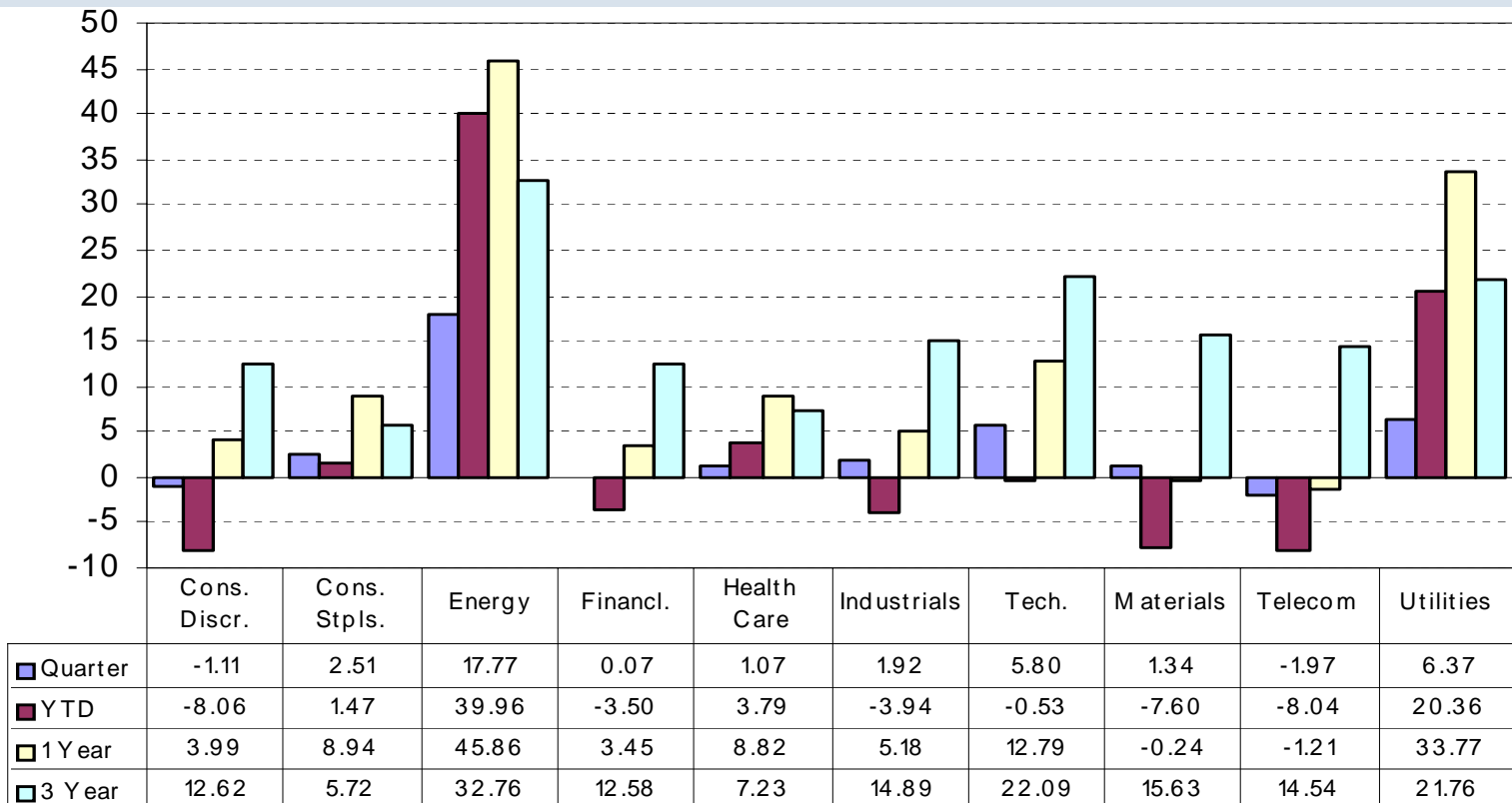
- Large growth stocks lost more than 36% of their value.
- Small value stocks increased by more than 100%!

| Cumulative 5-Yr | Value | Core | Growth |
|--|---------------|--------------|---------------|
| Large | 32.25 | -6.14 | -36.28 |
| Mid | 92.20 | 41.44 | -20.52 |
| Small | 102.89 | 36.82 | -11.98 |
| | | | |
| Note: Russell 1000, Mid-Cap, 2000 Indices: Value, Core, Growth | | | |

U.S. Equity Markets

Sector Performance

S&P 500 Returns by Sector



Source: Datastream

U.S. Equity Markets

Top Positive and Negative Contributors

| Stock | Return (%) | End of Quarter Weight | Rank | Stock | Return (%) | End of Quarter Weight | Rank |
|--------------------------|------------|-----------------------|------|----------------------------|------------|-----------------------|------|
| EXXON MOBIL CORP | 11.10% | 3.68% | 1 | PFIZER INC | -8.79% | 1.46% | 6 |
| AMGEN INC | 31.77% | 0.90% | 18 | FANNIE MAE | -22.90% | 1.87% | 63 |
| CHEVRON CORP | 16.60% | 1.34% | 12 | DELL INC | -13.33% | 2.19% | 25 |
| ALTRIA GROUP INC | 15.23% | 1.40% | 9 | BANK OF AMERICA CORP | -6.62% | 0.41% | 7 |
| QUALCOMM INC | 35.87% | 0.67% | 30 | WAL-MART STORES INC | -8.78% | 2.45% | 16 |
| CONOCOPHILLIPS | 22.21% | 0.89% | 19 | ABBOTT LABORATORIES INC | -12.98% | 1.68% | 34 |
| PROCTER & GAMBLE CO | 13.29% | 1.34% | 11 | GENERAL ELECTRIC CO | -2.19% | 0.22% | 2 |
| HEWLETT-PACKARD CO | 24.54% | 0.77% | 24 | INTEL CORP | -4.97% | 1.11% | 10 |
| APPLE COMPUTER INC | 45.64% | 0.41% | 61 | CISCO SYSTEMS INC | -6.03% | 1.37% | 15 |
| HALLIBURTON CO | 43.58% | 0.32% | 74 | MERCK & CO INC | -10.47% | 0.47% | 39 |
| AMERICAN INTL GROUP INC | 6.91% | 1.48% | 8 | FREDDIE MAC | -12.91% | 0.73% | 68 |
| VALERO ENERGY CORP | 43.05% | 0.32% | 76 | AVON PRODUCTS INC | -28.31% | 0.60% | 216 |
| BURLINGTON RESOURCES INC | 47.39% | 0.28% | 86 | WELLS FARGO & CO | -4.06% | 0.21% | 17 |
| IBM CORP | 8.38% | 1.17% | 13 | JOHNSON & JOHNSON | -2.14% | 0.62% | 5 |
| MOTOROLA INC | 21.19% | 0.50% | 47 | VERIZON COMMUNICATIONS | -4.26% | 0.58% | 21 |
| TEXAS INSTRUMENTS INC | 20.86% | 0.50% | 46 | HCA INC | -15.18% | 0.43% | 121 |
| GOLDMAN SACHS GROUP INC | 19.45% | 0.52% | 42 | SPRINT NEXTEL CORP | -5.12% | 0.31% | 33 |
| EBAY INC | 24.81% | 0.42% | 60 | JPMORGAN CHASE & CO | -3.01% | 0.30% | 14 |
| MICROSOFT CORP | 3.89% | 2.18% | 3 | DU PONT EI DE NEMOURS & CO | -8.08% | 0.39% | 69 |
| DEVON ENERGY CORP | 35.59% | 0.29% | 83 | COUNTRYWIDE FINANCIAL CORP | -14.20% | 0.32% | 133 |
| CATERPILLAR INC | 23.85% | 0.36% | 67 | ORACLE CORP | -6.14% | 0.69% | 57 |
| TXU CORP | 36.64% | 0.25% | 96 | SYSCO CORP | -13.32% | 0.52% | 132 |
| MCDONALDS CORP | 20.68% | 0.38% | 65 | COMCAST CORP | -4.21% | 0.37% | 36 |
| GILLETTE CO | 15.30% | 0.48% | 49 | ALLSTATE CORP | -6.94% | 0.31% | 72 |
| TIME WARNER INC | 8.68% | 0.78% | 23 | SEARS HOLDINGS CORP | -16.98% | 0.95% | 215 |

Data Source: Compustat

Report Date: November 3, 2005

Utilities

Consumer Staples

Cap Goods

Financials

Health Care

Basic Inds

Info. Tech

Energy

Cons Discretionary

Non-U.S. Equity Markets

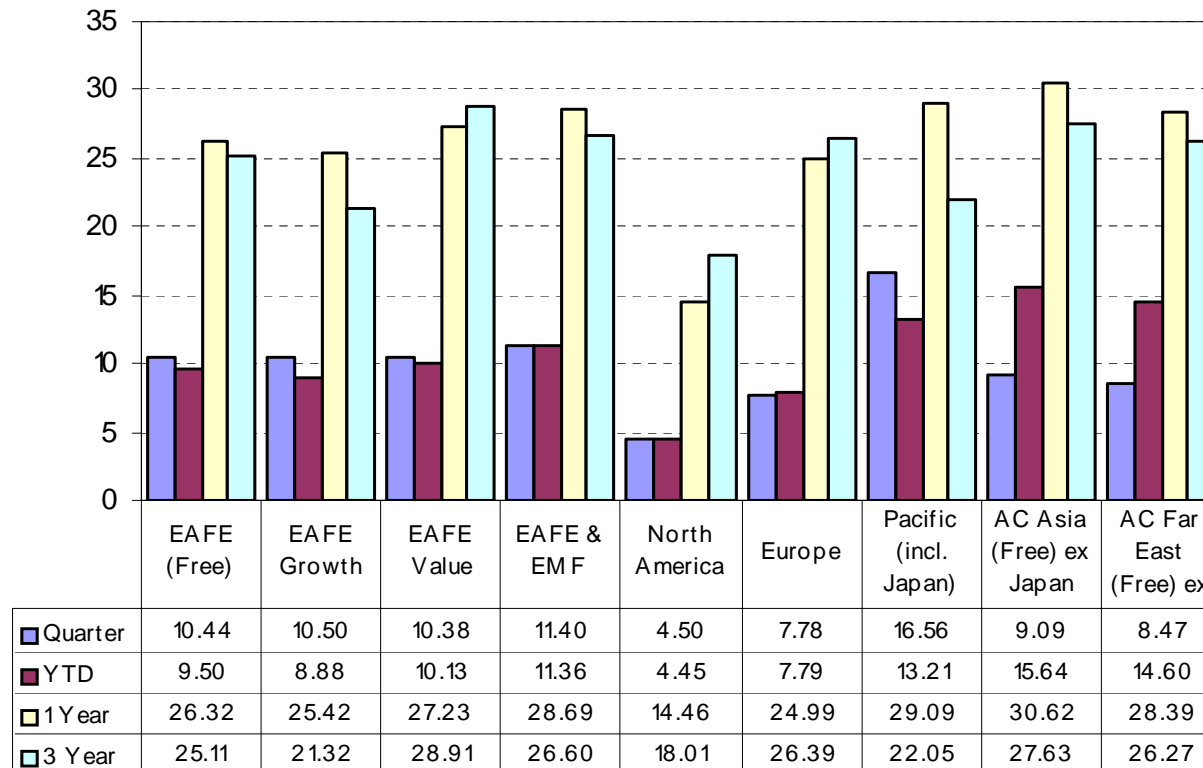
International Equities Performed Well Despite Energy Prices and Global Economic Concerns

- The MSCI EAFE advanced 10.4%, with most countries posting gains.
 - Japan returned the largest gain of 19.2%.
 - Other strong returns came from the European region, with Germany and France up 9.7% and 8.7% respectively.
 - Australia, a net energy exporter, gained over 11% for the quarter.
- Currency translation did not materially impact returns for this quarter; however, the U.S. dollar's appreciation slowed against the euro.
- Emerging market equities posted extremely strong gains, up over 18% for the quarter.

Non-U.S. Equity Markets

EAFE Regional Performance

MSCI Regional Index Returns (US\$)



Source: Datastream

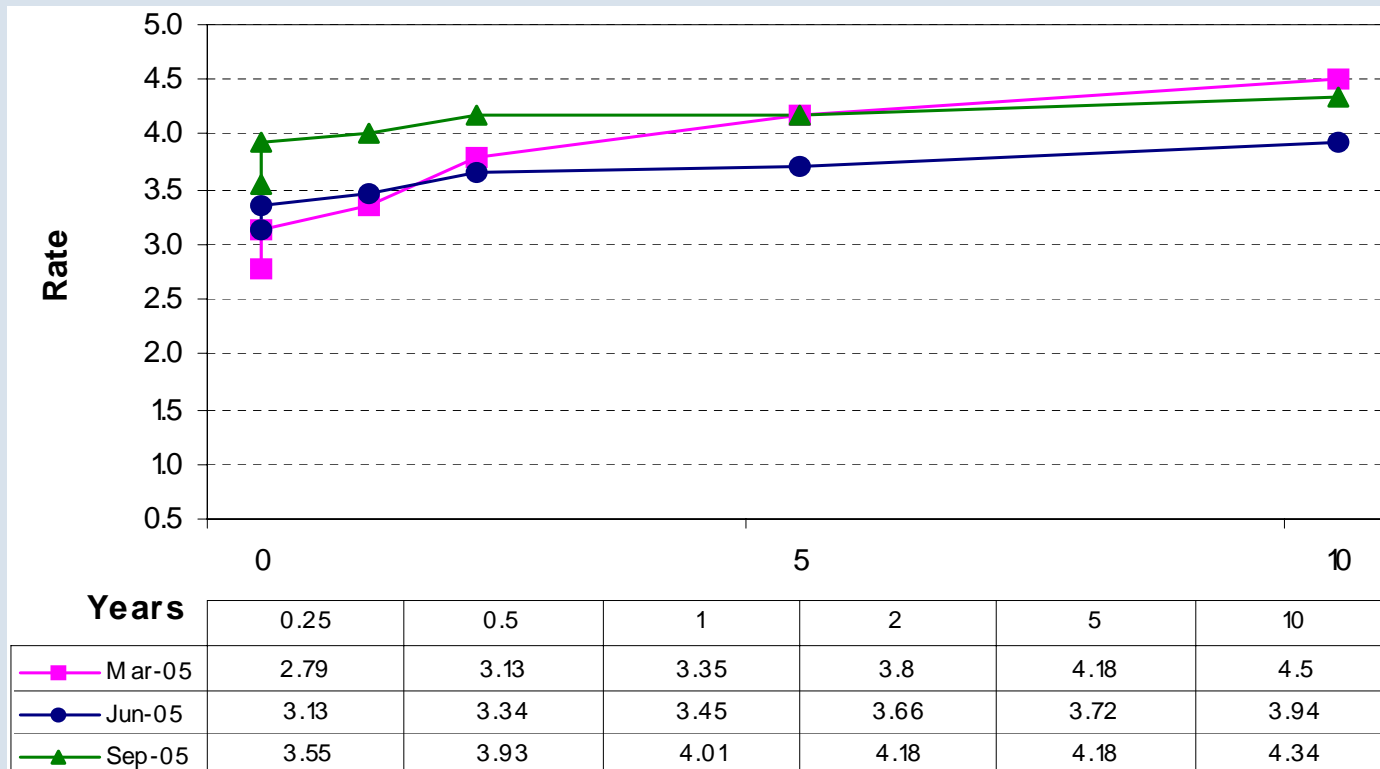
Fixed Income Markets

Bond Market Posts Losses; Lower-Quality And Credit Bonds Outperform U.S. Treasuries

- The investment-grade bond market lost ground during the third quarter as yields moved higher. The Lehman Brothers Aggregate Bond Index lost 0.7%, its second-lowest quarterly return of the decade.
- The Lehman Brothers Treasury Index was down 1.1% for the quarter. Long-term Treasuries were hit hardest, losing 2.7%, while intermediate-term Treasuries lost 0.6%.
- The Lehman Brothers Credit Index declined 1.0%. In general, long-term bonds underperformed intermediate-term maturity issues. By quality, losses were least severe for AAA-rated issues.
- The Lehman Brothers MBS Index fell 0.2% during the quarter. The average 30-year mortgage rate rose from 5.53% at June-end to 5.80% in the last week of September.

Yield Curve Flattened Further Short Rates Continued to Rise While Long Rates Fell

Flattening Yield Curve

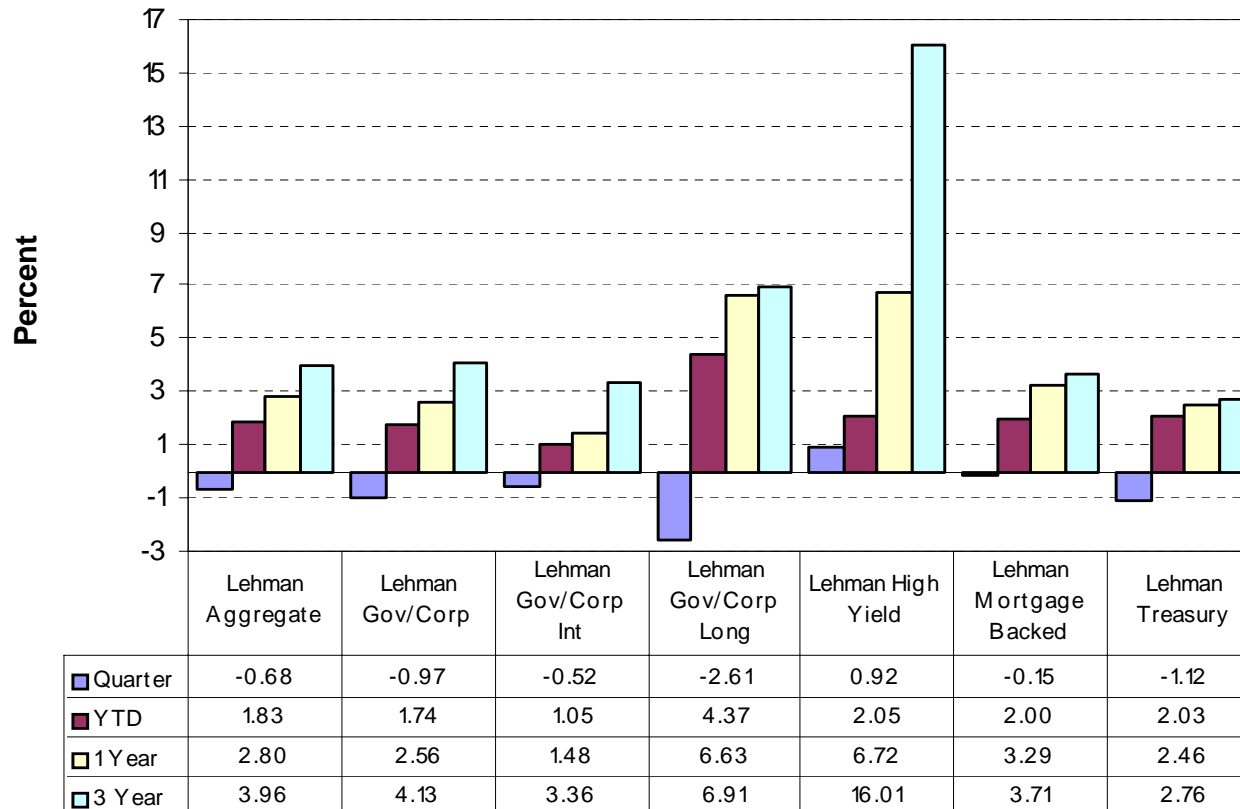


Source: Datastream

Fixed Income Markets

Index Performance

Domestic Fixed Income Returns



Other Asset Classes

■ Real Estate

- REITs continued to advance during the quarter as the NAREIT Equity Index gained 3.8%. The dividend yield at quarter-end was 4.56%, down from 5.12% a year ago.
- The latest data available for the private real estate market showed a second-quarter gain of 5.3% for the NCREIF Property Index.

■ Inflation Indexed Bonds

- Treasury Inflation-Protection Securities (TIPS) showed no gain for the quarter, but led Treasuries by 113 basis points.

■ International Bonds

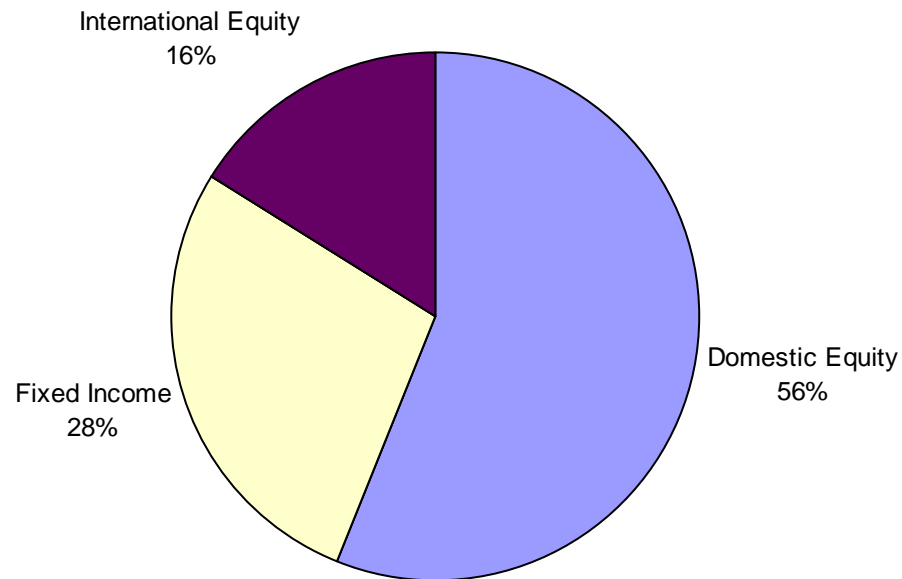
- The Citigroup Non-U.S. Government Bond Index lost ground for the third consecutive quarter, declining 1.1% in U.S. dollar terms. On a dollar-hedged basis, the Index gained 0.3%.

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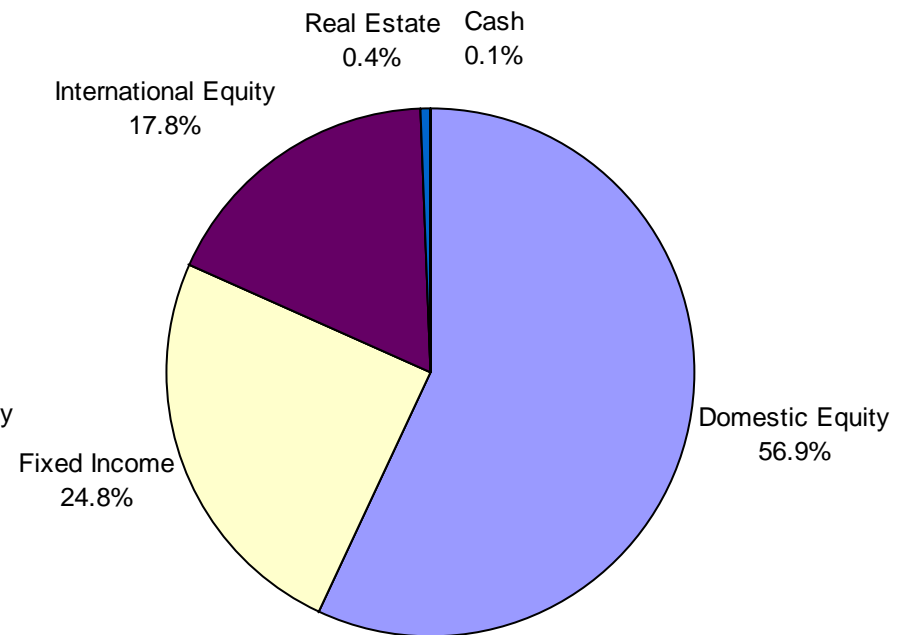
ASRS Total Fund Performance

Total Fund Asset Allocation September 30, 2005

Policy Adjusted for Transition into Real Estate

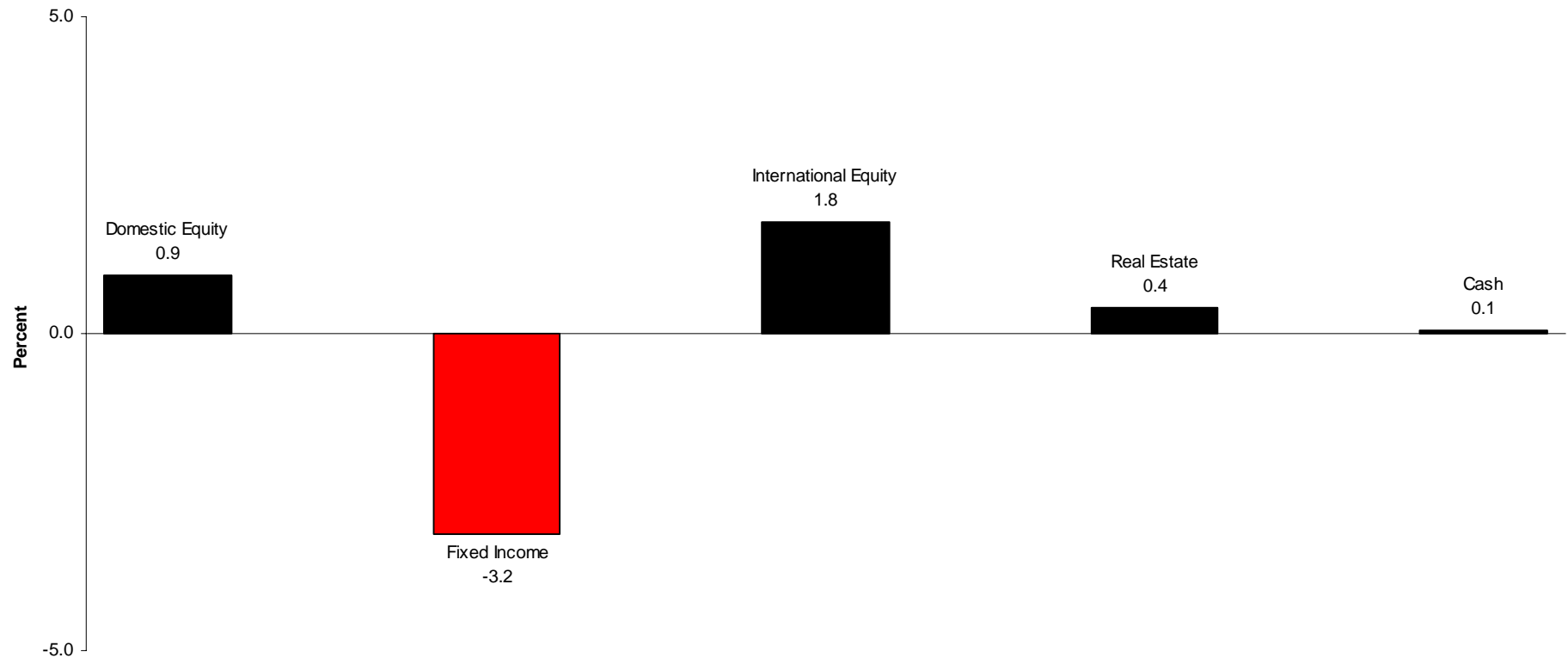


Actual Asset Allocation



Total Fund Asset Allocation September 30, 2005

Actual Asset Allocation vs. Policy Adjusted for Transition into Real Estate



Total Fund Performance

For Periods Ending September 30, 2005

| | Quarter | 1 Year | 3 Years | 5 Years | 10 Years |
|----------------------|----------------|---------------|----------------|----------------|-----------------|
| Total Fund | 3.7% | 12.9% | 15.2% | 3.0% | 9.2% |
| Benchmark* | 3.5 | 11.8 | 14.5 | 2.2 | 7.9 |
| Excess Return | 0.2 | 1.1 | 0.7 | 0.8 | 1.3 |

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

Policy History:

- 7/1/87-12/31/91 – 60% S&P 500/40% LB Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% LB Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% LB Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% LB Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% LB Aggregate/17% EAFE
- 10/1/03-present – 53% S&P 500/26% LB Aggregate/15% EAFE/6% Custom Real Estate Benchmark.

Total Fund Ranking

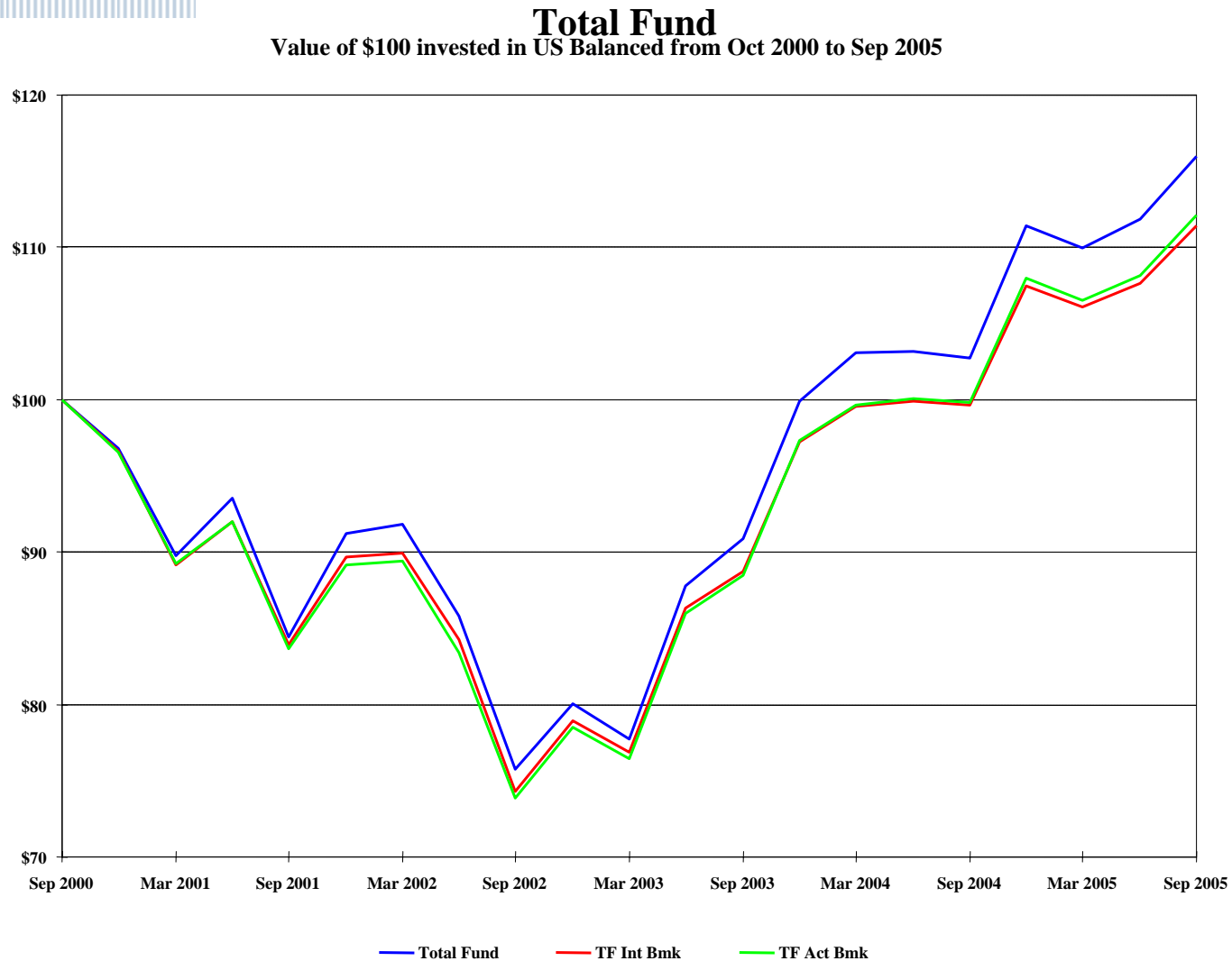
For Periods Ending September 30, 2005

| | 1 Year | 3 Years | 5 Years | 10 Years |
|---|--------|---------|---------|----------|
| Russell/Mellon Trust Universes | | | | |
| Master Trust Funds - Total Funds | 62 | 46 | 75 | 49 |
| Total Funds - Public | 84 | 65 | 95 | 38 |
| Total Funds Billion Dollar - Public | 89 | 75 | 95 | 45 |
| Total Funds - Corporate | 59 | 48 | 67 | 49 |
| Wilshire Trust Universe Comparison Service | | | | |
| Master Trusts - All | 59 | 41 | 74 | 64 |
| Public Funds | 55 | 32 | 79 | 43 |
| Public Funds Greater than \$1.0 Billion | 63 | 36 | 85 | 37 |
| Corporate | 60 | 41 | 69 | 75 |
| Callan Associates Inc. | | | | |
| Total Funds | 61 | 36 | 78 | 46 |
| Public Funds | 56 | 29 | 85 | 21 |
| Public Funds - Large (>1B) | 78 | 41 | 91 | 27 |
| Corporate Funds | 52 | 28 | 74 | 62 |

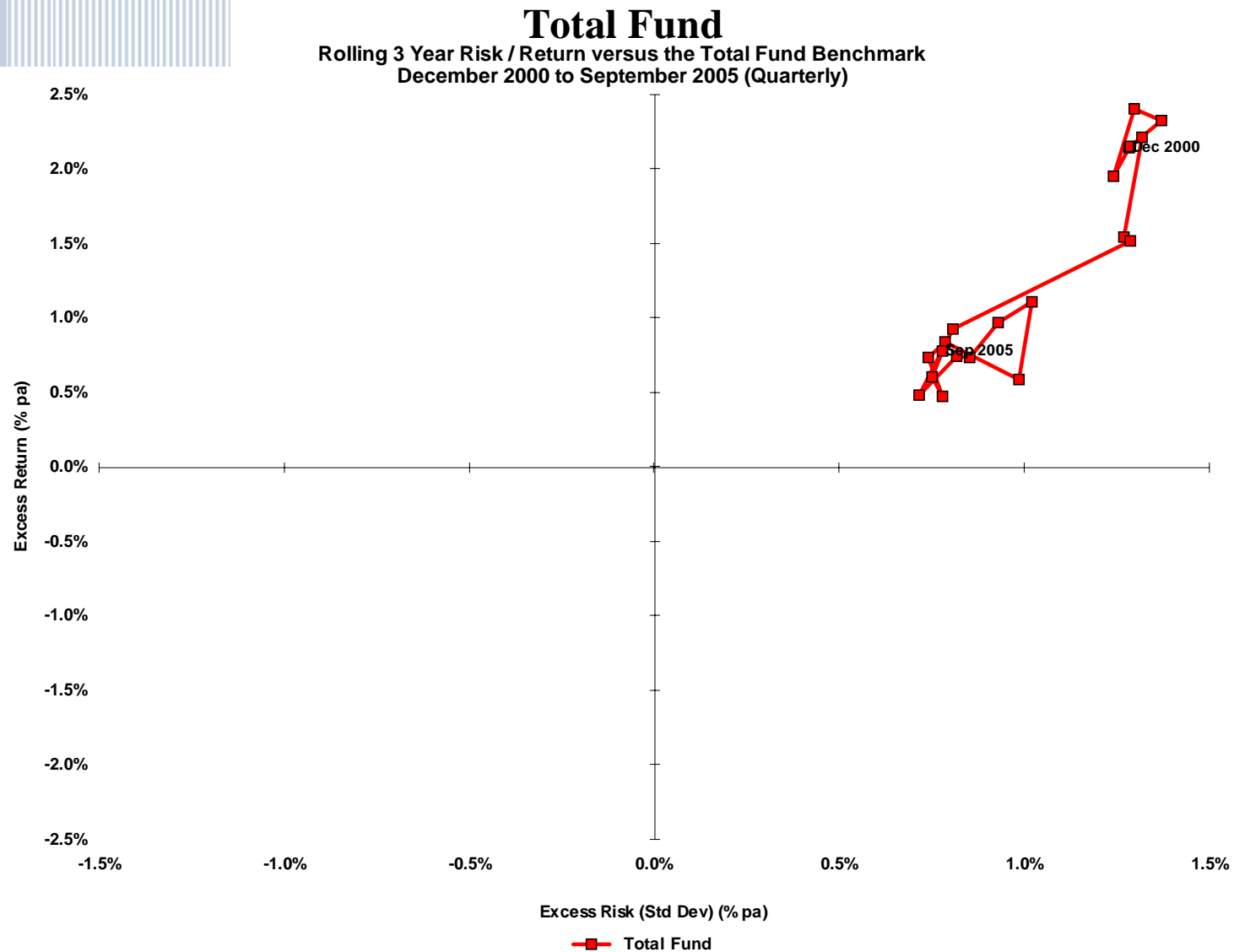
Total Fund Performance For Periods Ending September 30, 2005

| | <u>1 Year</u> | <u>3 Years</u> | <u>5 Years</u> | <u>10 Years</u> |
|----------------------------|---------------|----------------|----------------|-----------------|
| ASRS Total Fund | 12.9% | 15.2% | 3.0% | 9.2% |
| 1) Asset Allocation Target | 7.4% | 7.7% | 8.0% | 8.5% |
| Excess Return | 5.5% | 7.5% | -5.0% | 0.7% |
| 2) CPI Inflation + 3.75% | 8.4% | 6.9% | 6.5% | 6.4% |
| Wage Inflation + 3.75% | 7.6% | 6.3% | 7.1% | 6.7% |
| Excess Return - CPI | 4.5% | 8.3% | -3.5% | 2.8% |
| Excess Return - Wage | 5.3% | 8.9% | -4.1% | 2.5% |
| 3) Actuarial Assumption | 8.0% | 8.0% | 8.0% | 8.0% |
| Excess Return | 4.9% | 7.2% | -5.0% | 1.2% |

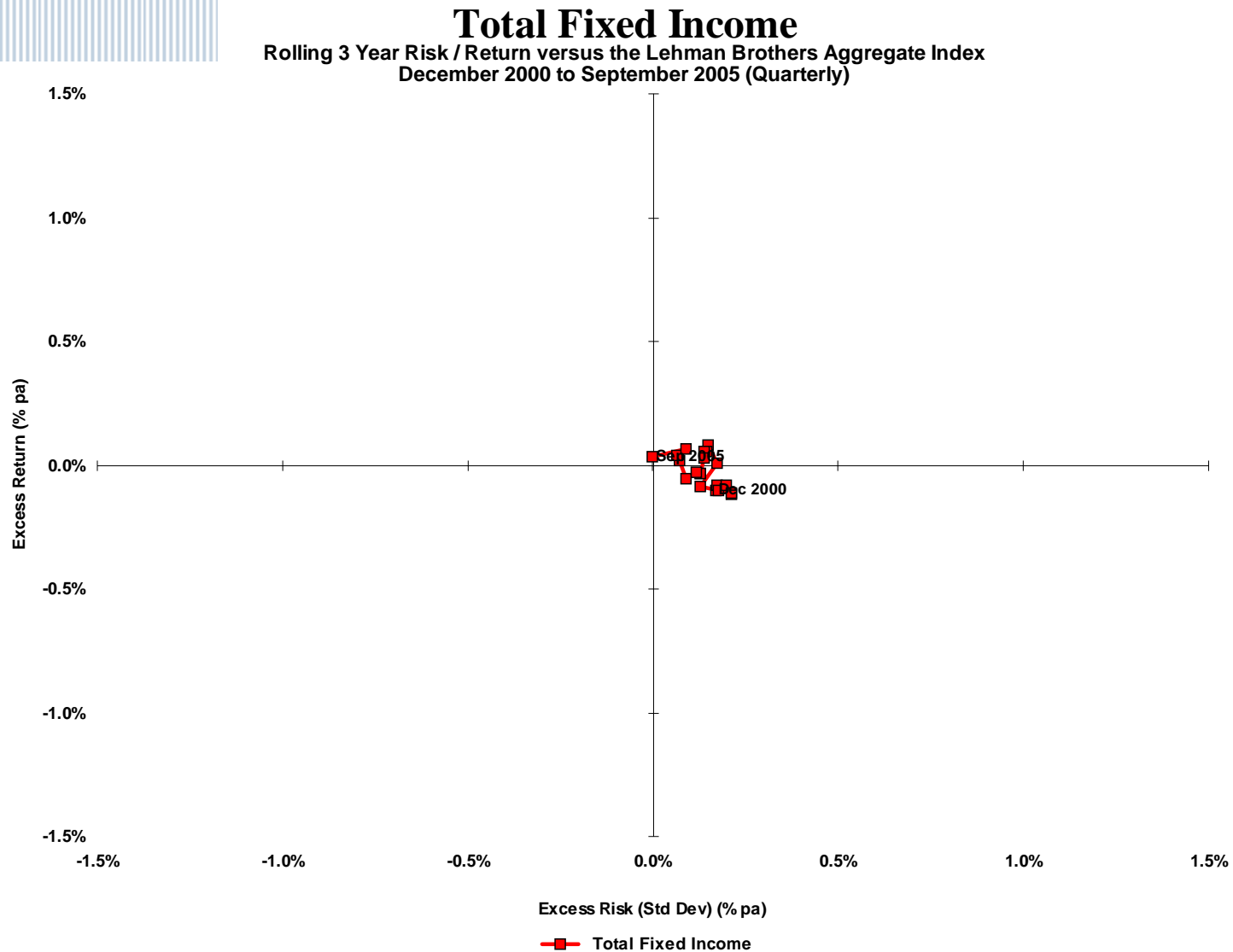
Total Fund Growth



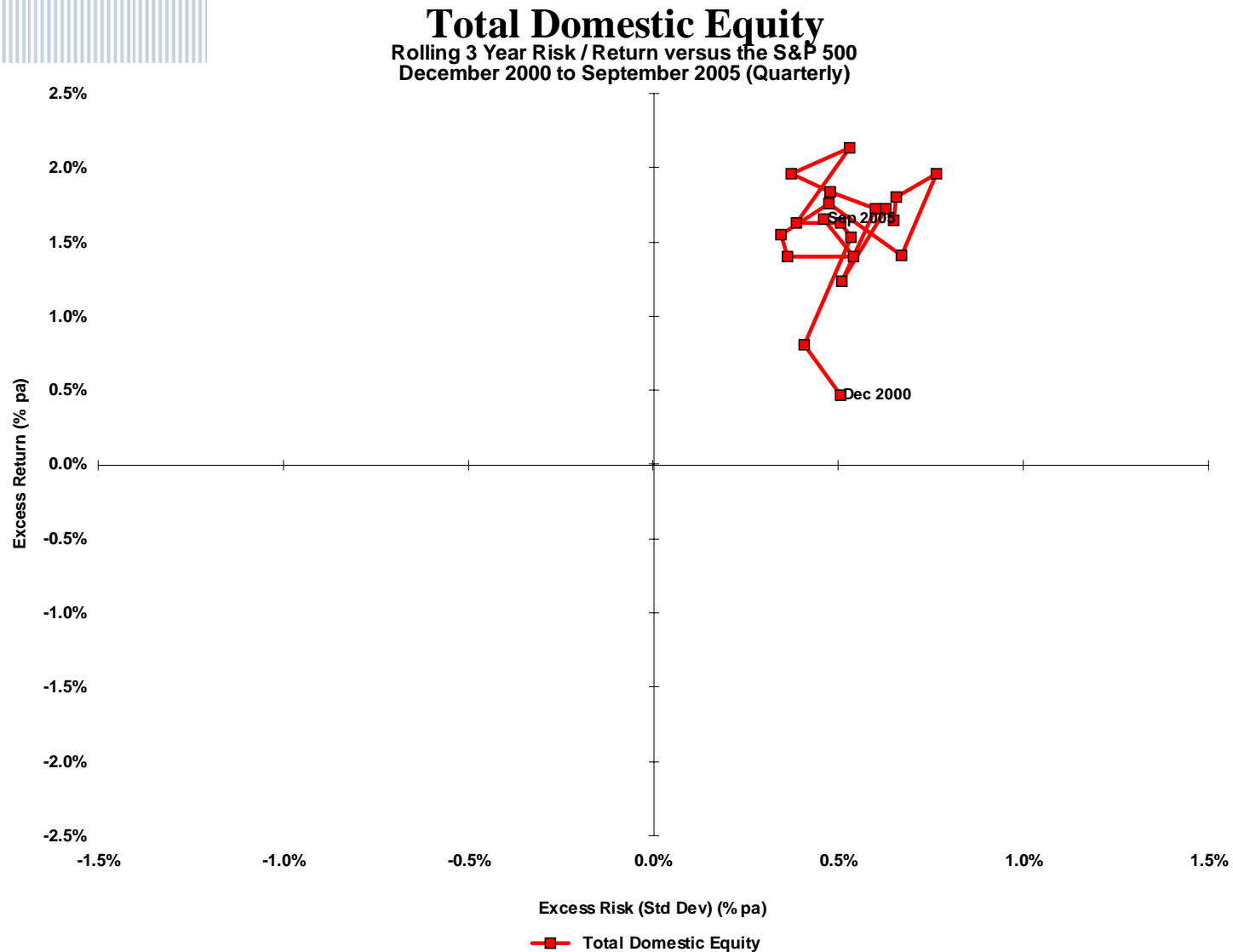
Risk/Return Analysis



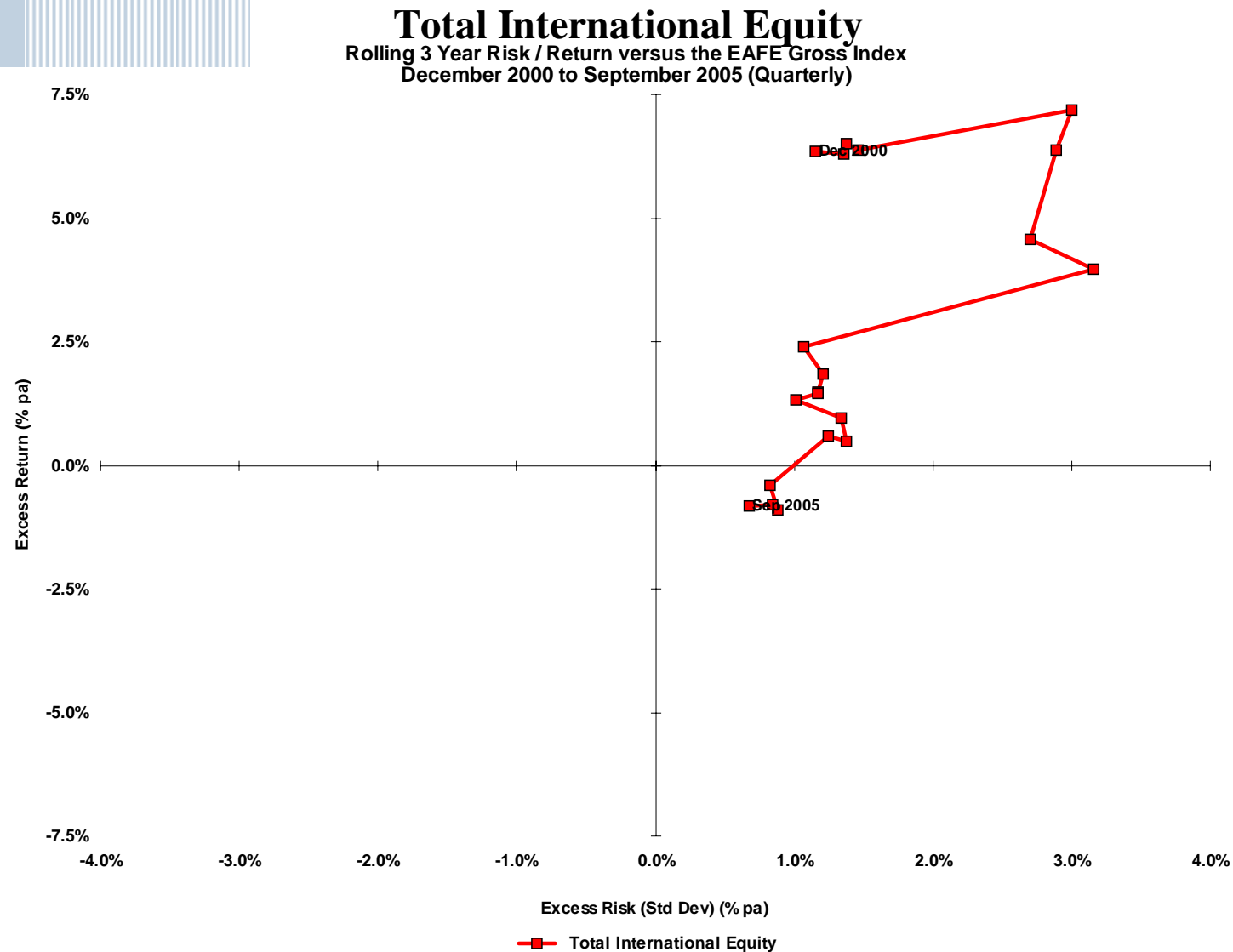
Risk/Return Analysis



Risk/Return Analysis



Risk/Return Analysis



Performance vs. Benchmarks

For the 3 Years Ending September 30, 2005

| | <u>Return</u> | Assumed <u>ROR</u> | <u>Std. Dev.</u> |
|-----------------|---------------|-----------------------|------------------|
| Total Fund | 15.2% | 7.7% | 9.6% |
| Benchmark* | 14.5 | | 9.2 |
| Domestic Fixed | 4.0 | 4.9 | 3.5 |
| LB Aggregate | 4.0 | | 3.5 |
| Domestic Equity | 18.4 | 8.8 | 12.3 |
| S&P 500 | 16.7 | | 11.9 |
| Intl. Equity | 24.3 | 9.0 | 17.5 |
| EAFE | 25.1 | | 16.8 |

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

Performance vs. Benchmarks

For the 5 Years Ending September 30, 2005

| | <u>Return</u> | Assumed <u>ROR</u> | <u>Std. Dev.</u> |
|-----------------|---------------|-----------------------|------------------|
| Total Fund | 3.0% | 8.0% | 13.2% |
| Benchmark* | 2.2 | | 12.6 |
| Domestic Fixed | 6.7 | 5.2 | 4.0 |
| LB Aggregate | 6.6 | | 4.0 |
| Domestic Equity | 0.3 | 9.0 | 19.1 |
| S&P 500 | -1.5 | | 18.5 |
| Intl. Equity | 3.9 | 9.4 | 21.0 |
| EAFE | 3.5 | | 20.6 |

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.